

## Peer Review File

Article information: <https://dx.doi.org/10.21037/abs-23-53>

### Reviewer A

We thank you for reviewing our manuscript and for the constructive comments.

- the hypothesis covered a lot of points, this should be more focused on a few main endpoints.

Reply: we thank you for your comment, we have altered the hypothesis/aim/endpoint section accordingly.

- with one year follow up is too short time to assess new lymphedema patients, since patients can develop lymphedema from months to years after treatment (SN, ALND or radiotherapy)

Reply: thank you for your comment, we agree, and have added a comment on this in the discussion section

- there are 3 smokers included in the patients, did the authors see significant difference between these 3 and the other 13 patients?

Reply: thank you for your comment, we did not see any difference between the 3 smokers and the rest of the patients. 1 smoker in the DIEP-flap group had sufficient ICG-A, and developed fat necrosis. 2 smokers in the LD-group – both with sufficient ICG-A and no postop. complications.

We have added this to the results section.

### Reviewer B

We thank you for reviewing our manuscript and for the constructive comments.

This manuscript is about ICG-A assessment for autologous breast reconstruction mainly pedicled LD and DIEP flap, designed in prospective observational study. The authors investigated ICG-A and several outcomes, and tried to show the effectiveness of ICG-A in guiding surgical decision making and its correlation with postoperative complications. This topic is well known and discussed in various way for immediate breast reconstruction field with mastectomy skin flap, NAC, and autologous free flaps, and consensus has been set up for decades. Also, among many ICG assessment device, SPY-Elite system is the most representative mode of the early stage, so the related perfusion rates are discovered in many ways. Although this study is well designed in prospective observational way and processes properly, the issue and contents are not novel and the results and conclusions the authors proposed are nothing special in this field.

Reply: We thank you for reviewing our manuscript. This study effectively demonstrates the feasibility of systematically integrating multiple ICG-A assessments in autologous breast reconstruction. To the best of our knowledge, there are few, if any, centers that consistently employ ICG-A for all breast reconstructions and have established a comprehensive model/ flowchart for the systematic use of multiple ICG-A assessments during ABR.

### **Reviewer C**

We thank you for reviewing our manuscript and for the constructive comments.

- I think it would be useful to have a flow-chart for patient selection, drop-out, and complications

Reply: we thank you for your comment. We have added a flowchart as suggested, figure 4

- what machine did the authors use for ICG qualitative and quantitative evaluation?

Please, specify

Reply: we thank you for your comment. As stated in the methods section under “ICG-A assessment” we used the SPY-Elite Fluorescence imaging system

- please, add the legend to the tables

Reply: we thank you for your comment. There is a legend to every table in the top? I am not entirely sure which alterations you would prefer. We have added all legends after the reference section

#### **Reviewer D**

We thank you for reviewing our manuscript and for the constructive comments.

- Line 275, authors reference video 2 for incision of the rectus abdominis fascia ICG, however, video 2 is for the pLD flap.

Reply: we thank you for your comment. The mistake has been corrected, and video 2 now refers to the right section.

- Did the authors performed a power analysis to determine if 18 patients in each group is adequate?

Reply: we thank you for your comment. The authors did not perform a power analysis due to the prospective observational design of the study. A power analysis will be performed for our next study to strengthen analysis.

- Complications: It is unnecessary to describe the different categories of Clavien-Dindo classification as this is a well-known classification and reader can look-up this

information if unsure. However, a table representative of how you categorized different complications based on Clavien-Dindo classification would be appropriate.

Reply: we thank you for your comment. We have made the suggested alterations in the manuscript. Also, a table has been added as per your suggestion. Table 4

- Line 366 authors state "19 pLD-flaps (16 pLD-flaps and 5 msLD-flaps). That adds up to 21 LD flaps. Can you please clarify.

Reply: we thank you for your comment. The typing mistake has been corrected.

- In the result section, authors type out the data in their tables. This makes the manuscript extremely long and hard to read. Data in tables are sufficiently presented, no need to repeat this as written words. If authors have other data that is not represented in the tables, it should be included in the results section. For example, the statistical analysis portion.

Reply: we thank you for your comment. We have altered the results section according to your suggestions.

- Lymphedema: Can the authors please perform statistical analysis for the lymphedema portion of the paper comparing the DIEP and LD group. One prophylactic/early treatment of lymphedema is LD muscle transfer into the axilla which contains lymph node. It would be important to see whether or not there was any improvement in the lymphedema in those patients with pre-op lymphedema diagnosis who underwent LD flap vs. DIEP

Reply: we thank you for your comment.

Seven patients in the pLD-group had preop lymphedema with being 6 immediate BR and 1 delayed BR.

Five patients in the DIEP-group had preop lymphedema and all received a delayed BR.

Due to small numbers in each group, statistical analysis was unfortunately not accomplished.

- Were there any complete flap loss in the DIEP cohort?

Reply: we thank you for your comment.

As stated under section Results – Peroperative ICG-A results and postoperative complications, there were no complete flap loss.

- Can the authors please include a historical matched cohort of patients with DIEP and LD reconstruction in order to compare complication rates with and without ICG assessment?

Reply: we thank you for your comment. We have added a comment on this in the discussion section.

- If the comparison of historic matched cohort reveals similar (non-significance) rates of complications, is the extra cost and time worth the utilization of ICG?

Reply: thank you for your comment. Indeed, we do believe that the utilization of ICG-A is not only feasible but also offers the potential to optimize surgical procedures progressively as the system and systematic implementation evolve. This is particularly advantageous when combining CTA with ICG-A, and there is a possibility that, in the future, ICG-A alone could serve as the primary method for locating and selecting perforators.

(See also: Chatterjee A, Krishnan NM, Van Vliet MM, Powell SG, Rosen JM, Ridgway EB. A comparison of free autologous breast reconstruction with and without the use of laser-assisted indocyanine green angiography: A cost-effectiveness analysis. *Plast Reconstr Surg.* 2013;131(5):693–701.

Mirhaidari et al. Routine Laser-assisted Indocyanine Green Angiography in Immediate Breast Reconstruction: Is It Worth the Cost?  
Chatterjee et al.)

- Within the discussion, authors repeat many of the finding that was presented in the results section and in a table format. Again, this repetition is unnecessary. Please remove this section from the manuscript. Discussion should include a brief presentation of pertinent finding followed by detailed discussion of why authors believe this was important and relevant and a comparison to other studies.

Reply: thank you for your comment. We have altered the discussion section and shortened the text of the entire section according to your suggestions.

#### **Reviewer E**

We thank you for reviewing our manuscript and for the constructive comments.

The following reference is missing: Bertozzi N, Pesce M, Santi PL, Raposio E. Oncoplastic breast surgery: Comprehensive review. Eur Rev Med Pharmacol Sci. 2017 Jun;21(11):2572-2585

Reply: thank you for your comment. The reference is added.